



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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15/870,401 05/04/98 15/870,401

IM51/1105
SIXTY FRIDOWN LEEBON V. FIDELITY
2010 CORFORATE RIDGE
BUTLE 600
MOLEAN VA 22102

EXAMINER

15/870,401

ART UNIT	PAPER NUMBER
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1702

DATE MAILED:

11/05/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/079,908

Applicant(s)

Mitsunori Sakama

Examiner

M.L. Padgett

Group Art Unit

1762

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 8/10/98
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. ¶ 1; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-15 & 20-22 is/are pending in the application.
- Of the above claim(s) 22 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-15 & 20-22 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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1. Applicant's election without traverse of group I, method claims 1-15 and 20-21 in Paper No. 3 is acknowledged.

2. Claims 1-15 and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Use of abbreviations in the claims without ^{first} writing out the full meaning in a claim sequence is objected to as failing to provide appropriate definition of the limitation. See CVD in claim 1.

The intended meaning of "decompression chamber" is unclear, as such are usually used for people who having been diving in the ocean a great depths. What is being decompressed from? How does such a chamber relate to the more standardly used vacuum chamber? For examination purposes, pending a useful explanation, regular vacuum chambers will be consider to be included by the claim limitation.

In claim 1, line 8 "the same time" lacks proper antecedent basis.

Note that while, first, second, etc, steps imply an order, they do not actually necessitate any order, hence the four steps as claimed can be done in any order or at overlapping times. Note they must be considered this way to make sense, other wise there would be no R.F. discharge available during the fourth step film formation. Also note that "radio frequency discharge" and RF "decomposing" need not refer to the same technique. *Some temporal limitations might be considered.*

Applicants' use of "silicide" appears to be incorrect, as it is defined as "a binary compound of tetravalent silicon and a metal; and M_2Si when M is Fe, Ni, Co, Cr, Mn, Cu or Mg". See

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Hackh's Chemi. Dict. definition. As applicant define their gas to be silane in claim 3, which is an impossibility, for purposes of examination, and silicon containing gas or any silane group gas will be considered for the "silicide gas" (as well as vaporized silicides). In claims 3 and 9 and 13, it is noted that while silane may mean SiH_4 it also read on any variety of silane gas.

In claim 4, line 1-2 "the longest period" is not an immutable quantity, hence lacks proper antecedent basis. See a like problem in claim 10.

Claim 8 has no clear meaning because no values are give, just units. Any frequency can be written with either of the two units claimed.

In claim 11 the steps are not commensurate in scope with the preamble, because there is no positive step of forming the preamble. It is also noted that gases capable of forming films are also capable of forming plasma discharges, hence the two named gases can be the same substance, but there will only need to be a flow of gas (a very typical procedure) at least some time during the process to read on the claims.

In claim 2 "a pressure" is introduced twice for apparently different meaning, with out proper differentiation, and it is unclear when these two pressures are "made equal". Similarly the meaning of claim 12 with two identical "a pressure" and "an atmosphere" is unclear, especially as there are no limitations that are clearly related to any of the previously introduced limitations.

In claims 14 and 20, ^{val} of "type" (lines 3 and 2, respectively) is improper as it is unclear what information it is intended to supply that is not included by "parallel flat plate electrodes".

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Claim 15, has no clear meaning as the second "a period" (undifferentiated 1st) has no relationship to any step in claim 11 from which it depends.

Claim 20 also has a preamble that is not commensurate in scope with the claimed steps, due to a lack of positive recitation of any coating, in fact only stop a gas that was never provided (the film forming gas) is claimed, and the claimed "formed surface" could be anything, since all objects that exist where formed at some time.

Claim 21 makes absolutely no sense, so as to ^{be} unexaminable. It has limitations without clear relationships, two undifferentiated "a periods" and is apparently trying to claim maintaining the period (the first listed), or some such thing. A little punctuation might be helpful.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-9, 11-15 and 20-21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kozuka et al.

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In Kozuka et al see Figures, especially see Fig. 4 and Embodiment 3 on col 9; col 4, lines 38-60 and col 5, line 54+ which indicates that pressures are maintained at the same value for the various plasmas. Also note in the figures the parallel plate apparatus, where the electrode with the substrate is grounded. The substrate thereon will therefore during plasma discharge acquire a self-bias, hence read on claim 20-21.

5. Claims 4-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozuka et al.

While the time for the plasma to stabilize is not taught in Kozuka et al, a competent practitioner will have short times for the plasma to reach equilibrium, hence values as claimed would have been expected. Annealing to form crystallized or semicrystalline films is a standard practice, depending on desired end use of the deposited layer, hence it would have been obvious to treat by a conventional technique, such as annealing to produce crystalline states as needed.

6. Other art of interest include Savas, Gupta et al and Mankowski et al who have various teachings with alternating depositing and non-deposition gases with various plasma states also taught.

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7. Any inquiry concerning this communication should be directed to M. L. Padgett at telephone number (703) 308-2336 and FAX #(703) 305-5408 for official papers; 305-3599 for after final papers; and 305-6357 for unofficial communications.

Padgett/mm

November 3, 1998

A handwritten signature in black ink, appearing to read 'M. L. Padgett', with a long horizontal stroke extending to the right.

MARIANNE PADGETT
PRIMARY EXAMINER
GROUP 1100